DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231-1027

AUG 10 2010

IN REPLY REFER TO:

Planning Division
Environmental Analysis Branch

PUBLIC NOTICE

1. The U.S. Army Corps of Engineers, Detroit District (COE), proposes to perform maintenance work on the Federal flood management project located along the Sebewaing River in Sebewaing, Michigan. Alternatives considered include: 1) Reconstruct critical earthen levee areas and re-vegetate; 2) Reconstruct critical earthen levee areas and armor with rip-rap; 3) Reconstruct critical earthen levee areas and armor with articulating concrete block mats; 4) Reconstruct critical earthen levee areas and armor with steel sheet pile (SSP) or concrete walls; 5) No action. The selected alternative would also involve: removing large trees/shrubs/vegetation and man-made encroachments in and along the levee within the project easement, and sealing a gap between a SSP wall and concrete wall that would transmit floodwaters, located near Center Street Bridge. The selected alternative is Alternative 3, reconstruct critical earthen levee areas and armor with articulating concrete block mats.

2. This Public Notice and the Environmental Assessment (EA)—*Maintenance of the Sebewaing Flood Management Project, Village of Sebewaing, Michigan*—are being issued for the purpose of providing information to various Government agencies and the general public and to solicit their comments and views relative to the proposed activity. The EA contains more detailed information about the proposed action and its potential impacts and is incorporated by reference into this Public Notice.

3. The EA includes a Section 404(b)(1) Evaluation, pursuant to the Clean Water Act (CWA), for placement of fill material into the waters of the United States as part of the flood management repair. Any person who has an interest that may be affected by the proposed in water placement of fill material may request a public hearing. The request must be submitted in writing within the comment period of this notice (as described below) and must clearly set forth the interest that may be affected and the manner in which the interest may be affected by this activity.

4. Environmental review of the proposed maintenance of the flood management project indicates it would not result in significant adverse short term, cumulative or long term environmental effects. Adverse effects would be minor, including short term noise and air emissions from equipment operation; temporary turbidity from construction operations; temporary displacement of fish; and destruction of bottom dwelling organisms in the immediate work area. Fish would return upon completion of construction and the articulating concrete block mats located below the water line would provide new invertebrate habitat compared to the existing river bed. The maintenance would prevent further deterioration of the flood control levee.

5. The project is expected to have no effect on the coastal zone of Michigan as it is outside of the coastal zone as designated by Michigan's Coastal Management Program. Water quality

certification under Section 401 of the Clean Water Act is being requested from the State of Michigan. State certification, or a waiver thereof, would be obtained prior to initiation of the maintenance of the flood management project.

6. Copies of this Public Notice, 404(b)(1) Evaluation and EA are being sent to the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, the State of Michigan and other Federal, state, and local agencies, tribes, interested groups, and individuals. Any comments you have concerning the proposed maintenance should be made within thirty (30) days from the date of this notice. If no comments are received by the end of the thirty (30) day review period, we will assume that you have no comment. Please direct your comments to:

U.S. Army Engineer District, Detroit
ATTN: CELRE-PL-E (Les E. Weigum)
P.O. Box 1027
Detroit, Michigan 48231-1027

7. Following the comment period and a review of the comments received, the District Engineer will make a final decision regarding the necessity of preparing an Environmental Impact Statement (EIS) for the proposed maintenance of the Federal flood management project at Sebewaing, Michigan. Based on the conclusions of the EA and the 404(b)(1) Evaluation, it appears that preparation of an EIS will not be required. Therefore, a preliminary Statement of Findings/Finding of No Significant Impact (PSOF/FONSI) has been included in the EA.

Jim E. Galloway
Chief, Planning Office

Attachment

Notice to the postmasters / libraries and other various public entities:

It is requested that the above notice, accompanied by a copy of the enclosed Environmental Assessment, be conspicuously and continuously posted for **30 days** from the date of issuance.

ENVIRONMENTAL ASSESSMENT

MAINTENANCE OF THE SEBEWAING FLOOD MANAGEMENT PROJECT
VILLAGE OF SEBEWAING, MICHIGAN

AUGUST 2010

U.S. ARMY ENGINEER DISTRICT, DETROIT
ATTN: CELRE-PL-E (L. WEIGUM)
P.O. BOX 1027
DETROIT, MICHIGAN 48231-1027
313-226-6752

ENVIRONMENTAL ASSESSMENT

MAINTENANCE OF THE SEBEWAING FLOOD MANAGEMENT PROJECT
VILLAGE OF SEBEWAING, MICHIGAN

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A. Preliminary Statement of Findings / Finding of No Significant Impact
B. Section 404(b)(1) Evaluation of the Clean Water Act

ENVIRONMENTAL ASSESSMENT

MAINTENANCE OF THE SEBEWAING FLOOD MANAGEMENT PROJECT VILLAGE OF SEBEWAING, MICHIGAN

1.0 INTRODUCTION

1.1 The U.S. Army Corps of Engineers, Detroit District (COE), proposes to perform maintenance in a section of the Federal flood management project located along the Sebewaing River in Sebewaing, Michigan. (Figure 1). The flood management project starts west of the railroad bridge and extends east to the intersection of State Drain and Columbia Drain (Figure 2). This Environmental Assessment (EA) addresses the potential impacts of maintaining the earthen levee along the north side of the Sebewaing River, between the Center Street Bridge and the Beck Street Bridge and a narrow gap in the flood wall on the south side of the river. The remaining areas in the flood protection system will be addressed in future EA's when funds become available.

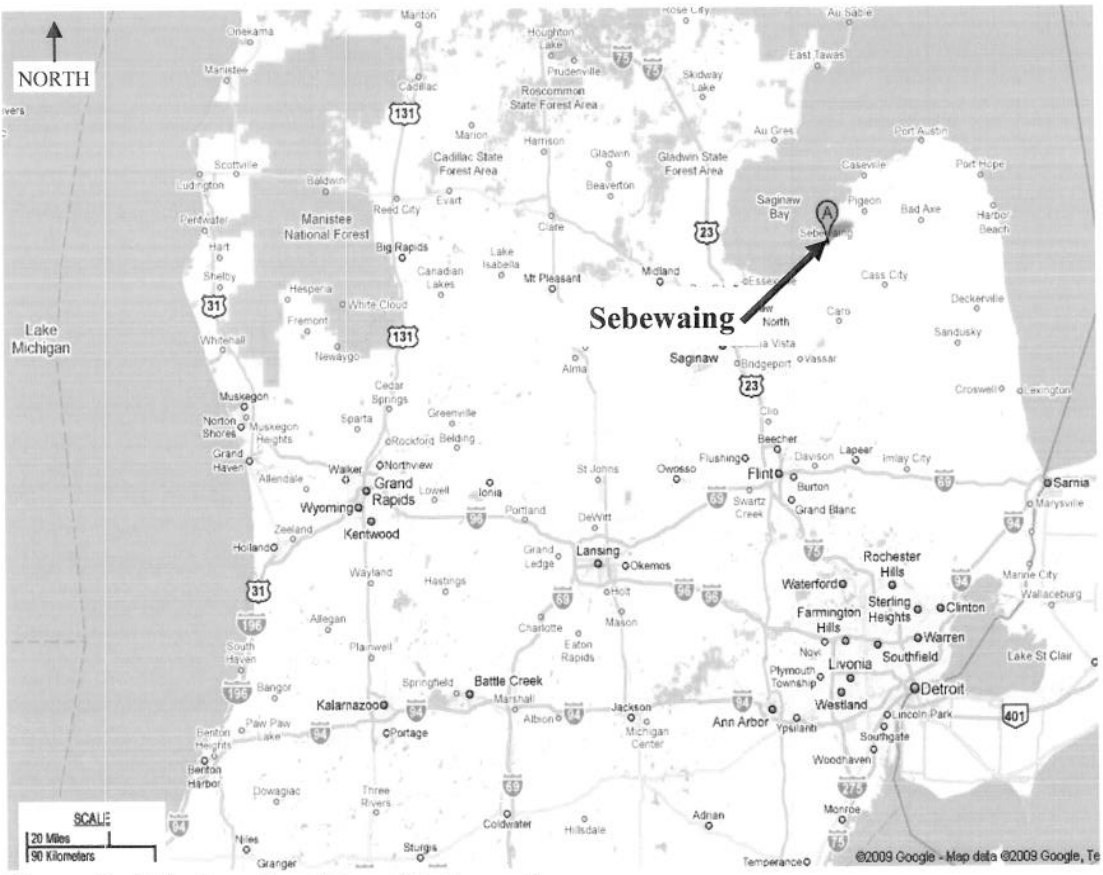

Figure 1: Site Location Map. Not to scale.

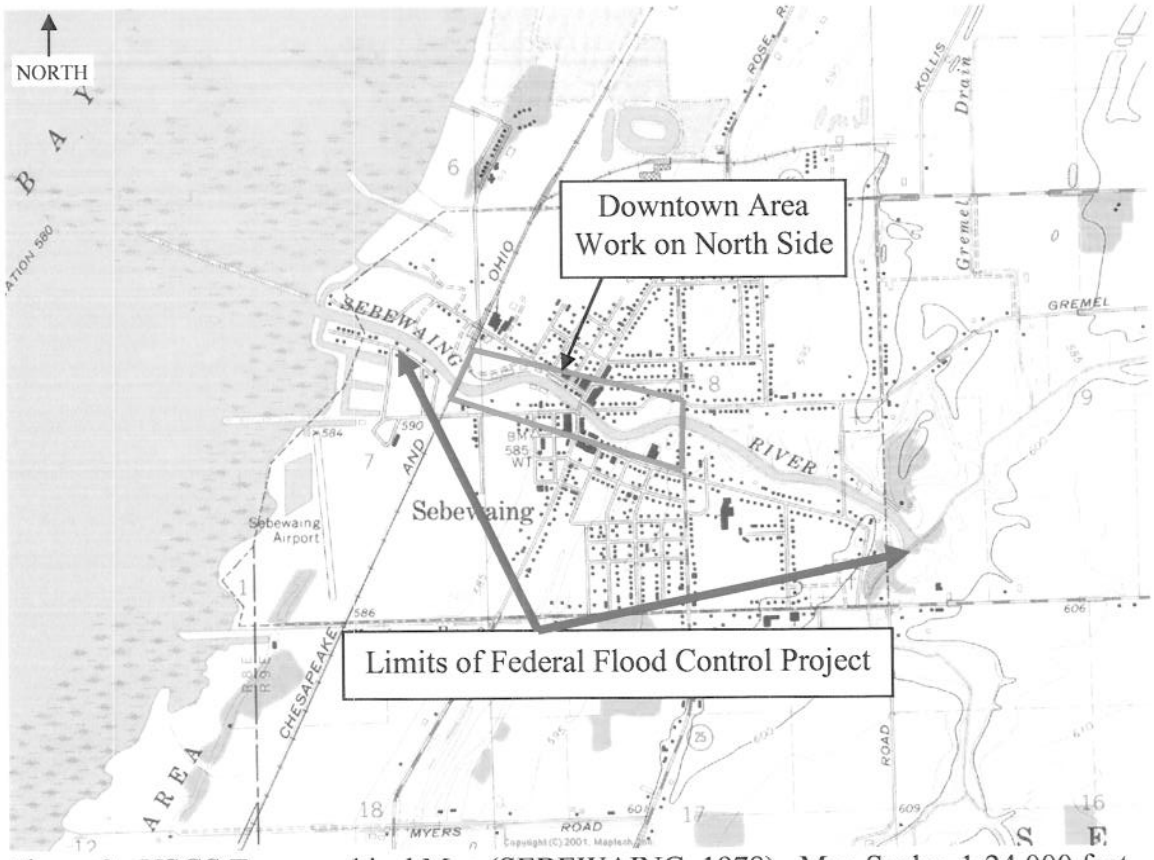

Figure 2: USGS Topographical Map (SEBEWAING, 1978). Map Scale: 1:24,000 feet

1.2 The project site is located in the Village of Sebewaing in Huron County, on the eastern side of Saginaw Bay in the "thumb" area of Michigan (Figure 1). Huron County is bordered by Lake Huron on the north and east, by Saginaw Bay on the west, and by Tuscola and Sanilac counties to the south. Sebewaing was settled in the mid-19th century by mainly German immigrants. The 2008 census estimates the Sebewaing population at 2,000 people. The surrounding watershed is agriculture, with sugar beets, wheat, corn and dry beans as the major crops. Over 90% of the land within the Sebewaing watershed is agriculture. The watershed drains approximately 66,000 acres (100 square miles) of agriculture land.

2.0 PROJECT AUTHORIZATION AND HISTORY

2.1 An upstream drainage system was completed on the Sebewaing River in 1931 by improving flows in the Sebewaing River and Branches Drain. This work included straightening and enlarging approximately 22 miles of the Sebewaing River and its tributaries. Prior to 1931, there was no history of disastrous floods on the Sebewaing River. Floods occurred in 1934, 1935, and 1938 as the result of increased run-off to the drainage system and Sebewaing River. To alleviate flooding in the village, the Sebewaing River Flood Management Project was authorized by the Flood Control Act of 1941 to provide flood protection. Construction of the original Sebewaing flood management project began in 1945 and was completed by 1948. Authorization for the project included future COE Operation and Maintenance (O&M) activities. Much of the flooding in Sebewaing was caused by ice jams that formed during spring runoff. The railroad bridge and three

highway bridges in town were previously altered by others to permit freer passage of ice.

2.2 The Federal flood management project is approximately 11,000 feet, extending from near the outlet at Saginaw Bay, starting about three quarters of a mile downstream (west) from the railroad bridge, to the junction of the Columbia and State Drains (to the east) (Figure 3). The original Federal project was primarily a channel enlargement project, but levees and floodwalls were constructed between the railroad and the Beck Street Bridge to protect adjacent areas from flooding. The levees were constructed on the channel banks using excavated soils from channel widening. Some steel sheet pile (SSP) revetment walls are located in some downtown areas that are not part of this maintenance work (Photographs, Figures 4a and 4b). The Corps also performs maintenance dredging of shoaled material in the Sebewaing River as authorized under the Rivers and Harbors Act of 1896.

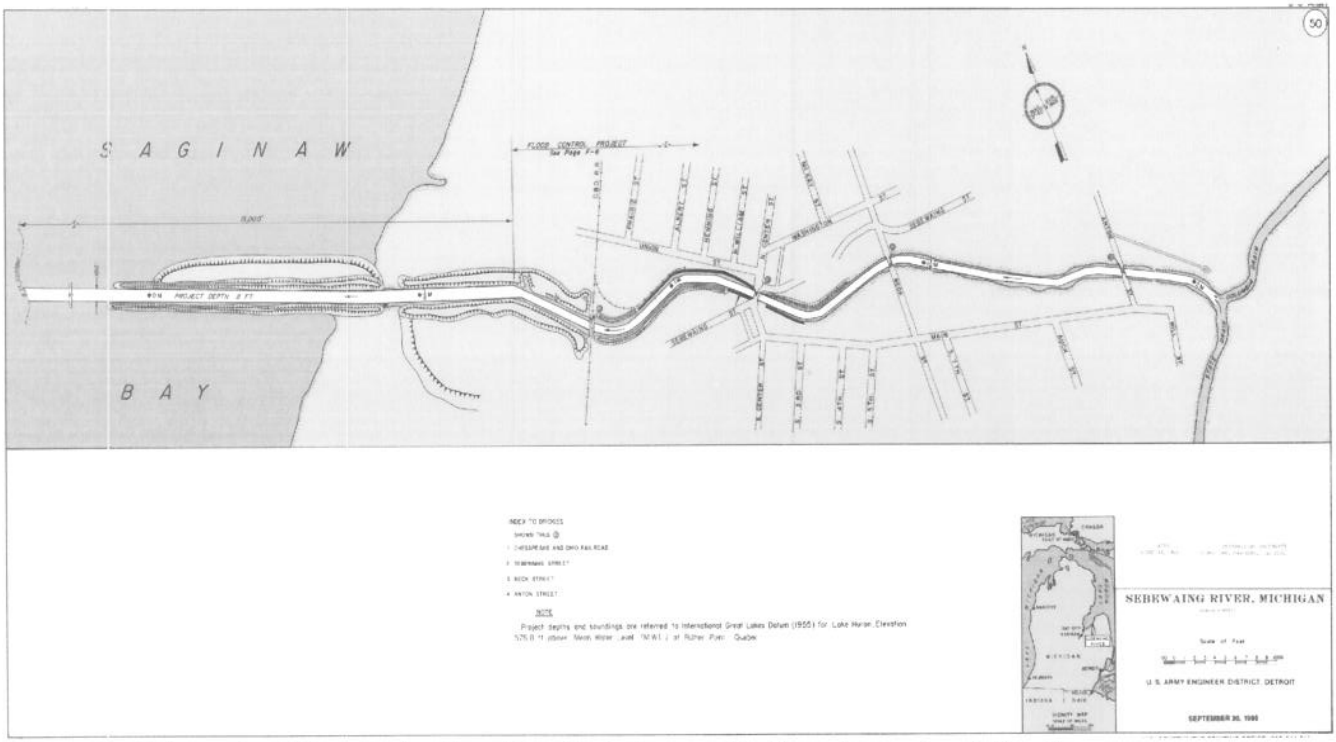

Figure 3: Sebewaing River Federal project depicting navigation channel and flood management area.

Figure 4a: Central section of work area. Photo shows the north levee on the Sebewaing River, looking downstream. Maintenance work from Station 19+75 to 30+53.

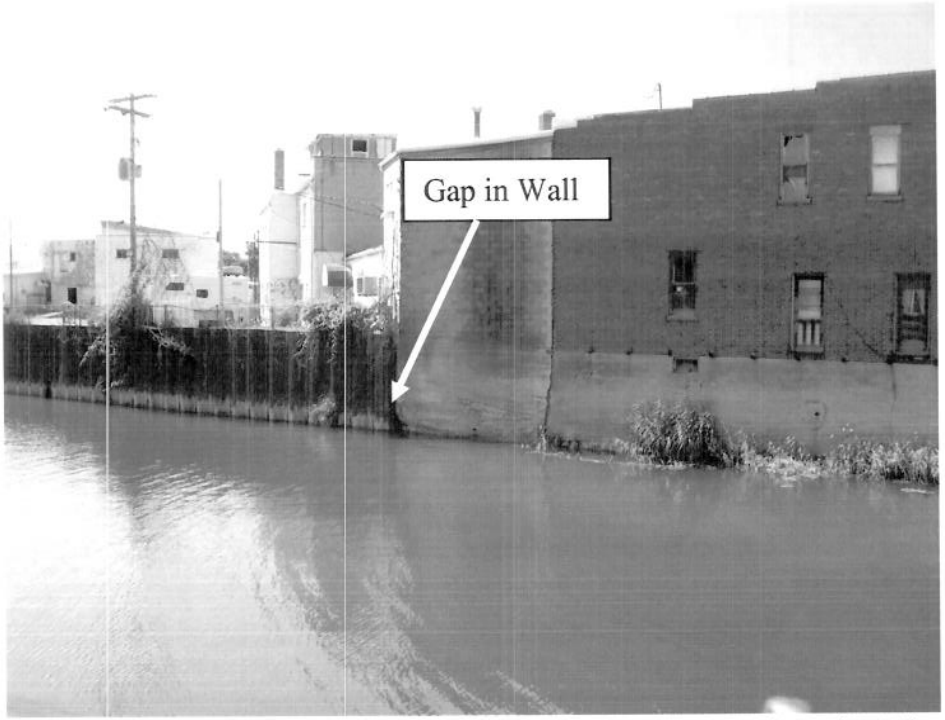

Figure 4b: Gap to be repaired along the south side of the Sebewaing River, east of the Center Street Bridge.

3.0 PROJECT PURPOSE AND NEED

3.1 The Federal flood management project protects downtown Sebewaing residents, businesses and industry from flooding. For all modeled water surface elevations, the existing levees are not predicted to overtop. However, there is minimal freeboard (distance between the water line at design elevation and top of bank) at some locations, specifically near station 28+00 on the right bank when looking downstream. It was recommended that the proposed levee from Stations 19+75 to 30+53 more closely match the elevations in the upstream and downstream cross sections, resulting in an increase of approximately 2 feet to the existing levee, or an elevation of approximately 591.5 feet (IGLD 85). With the proposed levee maintenance, the anticipated water levels would be well below the proposed top elevation of the levee. A recent inspection revealed that the current levee is compromised by growth of vegetation and large trees, real estate encroachments (e.g., building and retaining walls constructed into or immediately adjacent to the levee), and erosion. This maintenance project focuses on vegetation removal and stabilizing the most critical 1,000 lineal feet (LF) of levee of the flood management project and plugging a gap located between a SSP wall and concrete wall near the Center Street Bridge. This improved project section would provide additional protection against a 500 year flood event. Additional areas of the flood management project on both the north and south sides of the river that are not proposed for maintenance at this time consist of levees and SSP in fair condition. Further maintenance would be completed in the future as funds become available.

4.0 ALTERNATIVES AND THE PROPOSED ACTION

4.1 Alternatives. Several alternatives were considered for maintenance of the Federal flood management project along the north side levee of the Sebewaing River from Station 19+75 to Station 30+53. All action alternatives would involve removing vegetation and man-made encroachments in and along the levee, shaping and armoring the levee and repair of a small but critical gap located between a SSP wall and concrete wall on the south side of the river near Center Street Bridge (Figure 5).

Alternative 1: Reconstruct critical earthen levee areas and re-vegetate. Due to the nature of ice jams and ice flows along the Sebewaing River, substantial shoreline protection would be needed to prevent erosion, and this alternative would not be able to provide such protection. Based on these conditions, this alternative was not selected.

Alternative 2: Reconstruct critical earthen levee areas and armor with rip-rap. Due to the nature of ice jams along the Sebewaing River shoreline, very large sized scour stone would be required to withstand the ice loading. In addition, stone would need to be placed well riverward of the existing toe of bank to create the proper slope stability for the rip-rap. Encroachment into the river is not desirable since it would reduce flow capacity in the river. This alternative would require maintenance of the scour stone and rip-rap to maintain erosion control measures and protect the levee. Based on site conditions and issues, this alternative was not selected.

Alternative 3: Reconstruct critical earthen levee areas and armor with articulating concrete block mats (e.g., ArmorFlex). Earthen levees armored with concrete block mats would be able to withstand the ice jams and loading typically found along the Sebewaing River. Concrete block mats are comparable in cost to rip-rap, and approximately half the cost of SSP or poured concrete walls. Since the concrete blocks are inter-locked, the mats do not need scour stone or maintenance for erosion protection and extend minimally into the river. Based on the site factors, Alternative 3 is the selected alternative.

Alternative 4: Reconstruct critical earthen levee areas and protect with SSP or poured concrete walls. This alternative was not selected due to the high cost (would need to be constructed along the entire levee) and requires severe alteration from the existing flood management measures already in place. Based on these factors, this alternative was not selected.

Alternative 5: No action. Taking no Federal action was not selected because it would result in continued flood management safety issues for the residents of Sebewaing and would not fulfill Federal obligations to maintain this project. This alternative was eliminated from further consideration except as a baseline for which to compare the potential environmental effects of the proposed action.

4.2 **Description of Proposed Action.** The proposed action is Alternative 3; reconstruct critical earthen levee areas and armor with articulating concrete block mats. The Federal flood management project consists of a levee on the north side of the river that is overgrown with large trees and brush, which provides an avenue for flood waters to follow along the roots or access the protected areas if a tree tips over and the root mass exposes raw earth in the levee. Trees, brush and man-made encroachments in the levee will be removed from approximately Station 19+75 to Station 30+50. Once the vegetation and debris is removed from over 1,000 feet of levee, the levee will be shaped. Gravel fill would be placed to create the required slope, capped with a clay layer to create an impenetrable barrier between the river and the embankment. Geotextile fabric would be placed over the gravel and clay. The final layer of protection would consist of articulating concrete block mats (e.g., Armorflex or equal). The interlocked concrete blocks are connected with galvanized cables and distribute stress over the entire mat. The mats of concrete block would be placed over the aggregate and keyed in and anchored at the toe and crest of the levee. The voids in the concrete blocks would be filled with soil and hydroseeded (Figure 6). On the south side of the river, the gap repair will consist of placing a grout bag into a 6" wide by 5' tall opening located between an existing SSP wall and concrete foundation and filling with concrete grout to prevent water from penetrating the SSP wall (Figure 7).

4.3 Maintenance activities on the Federal flood management project would likely occur in late spring to fall when stream flows are generally lower and the probability of ice jams have subsided. In-stream work would be avoided for the period of 1 April to 30 June to minimize possible effects on fish spawning in the area. Cutting of large vegetation could be conducted at any time; however, removal of roots, etc. would occur during periods of low flood risk. Repair of the gap could be performed at any time during the project as the gap is above the ordinary high water mark (OHWM).

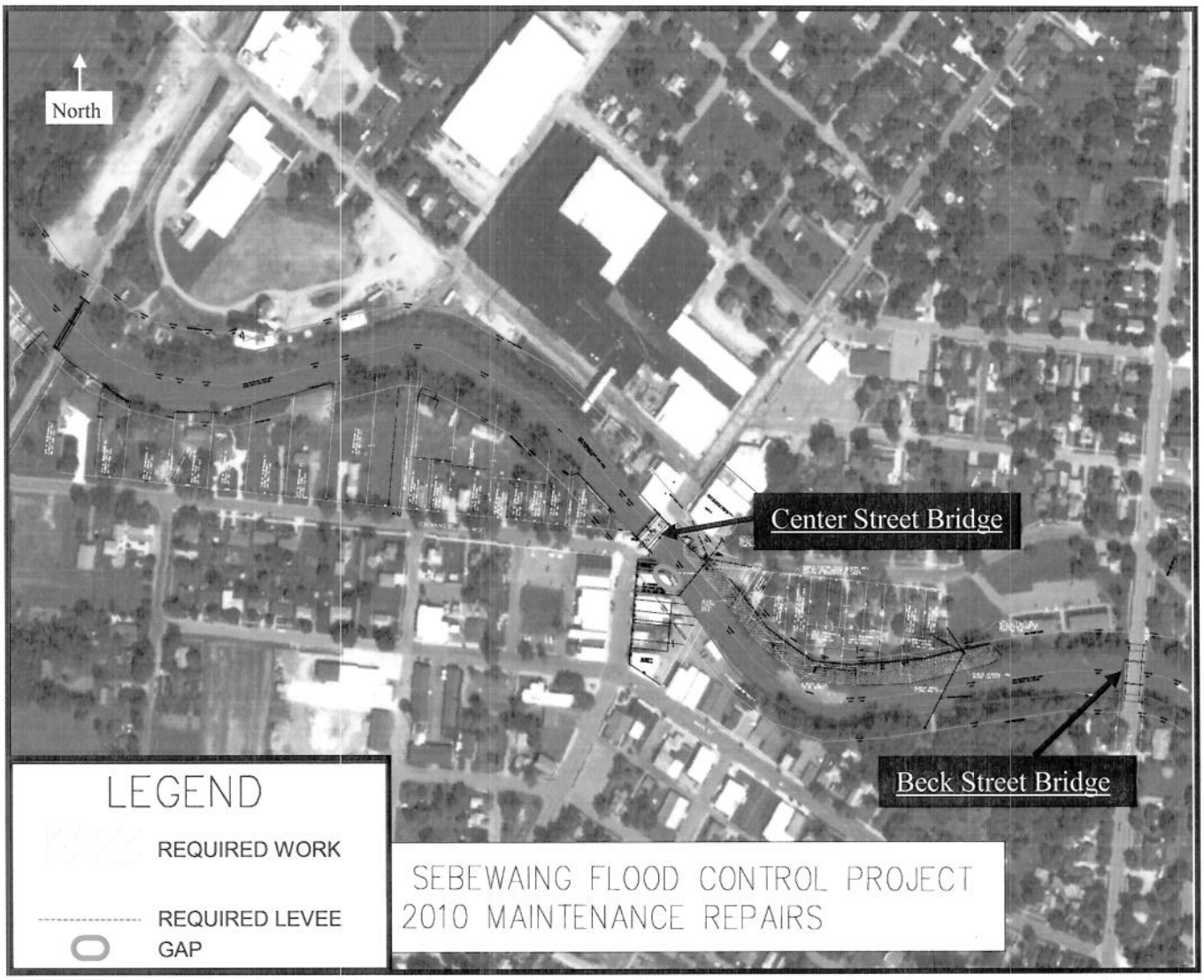

Figure 5: Aerial photograph of the Federal flood management project, showing approximate boundaries of the proposed maintenance work areas located along the Sebewaing River.

It is anticipated that most work along the river would be completed within a 5-7 month time period. As necessary, any partially maintained portions of the levee would be stabilized prior to flood seasons to required flood protection heights.

4.4 Previously Used Equipment: The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

4.5 Miscellaneous Project Details. Utilities on the levee would be located, protected or moved, as necessary. Access for construction and material storage will be provided by the Village to accommodate the maintenance work. The proposed construction activities may require

temporary access, staging areas, and / or construction of one or more temporary structures, upland or in-water. Temporary structures and staging sites would be at COE approved, and Village owned or Village approved locations. Temporary access for construction and staging would be on either side of the riverbank. The contractor would move equipment along easements, across the levee, or use portable barges and work from the water. Temporary structures and staging sites would be located outside of any wetlands, areas containing Federally protected species and their critical habitat, and properties listed or eligible for listing on the National Register of Historic Places. The type and location of structures and staging sites cannot be determined at this time, since they would be incidental to the work being performed. Examples include turnarounds, work and storage areas, access roads, and office facilities. These construction aids would be temporary within project boundaries or right-of-ways and removed when no longer needed.

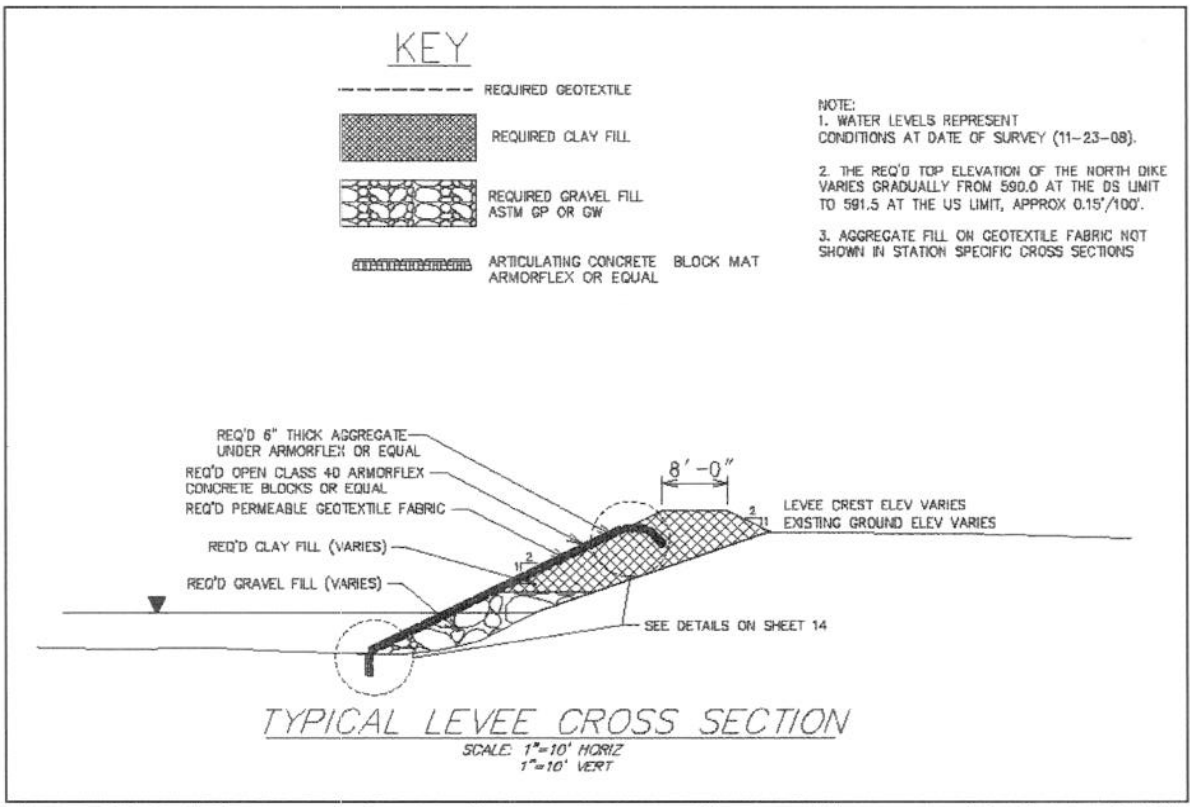

Figure 6: Typical cross section detail for reconstructed levee with concrete block mat (NTS).

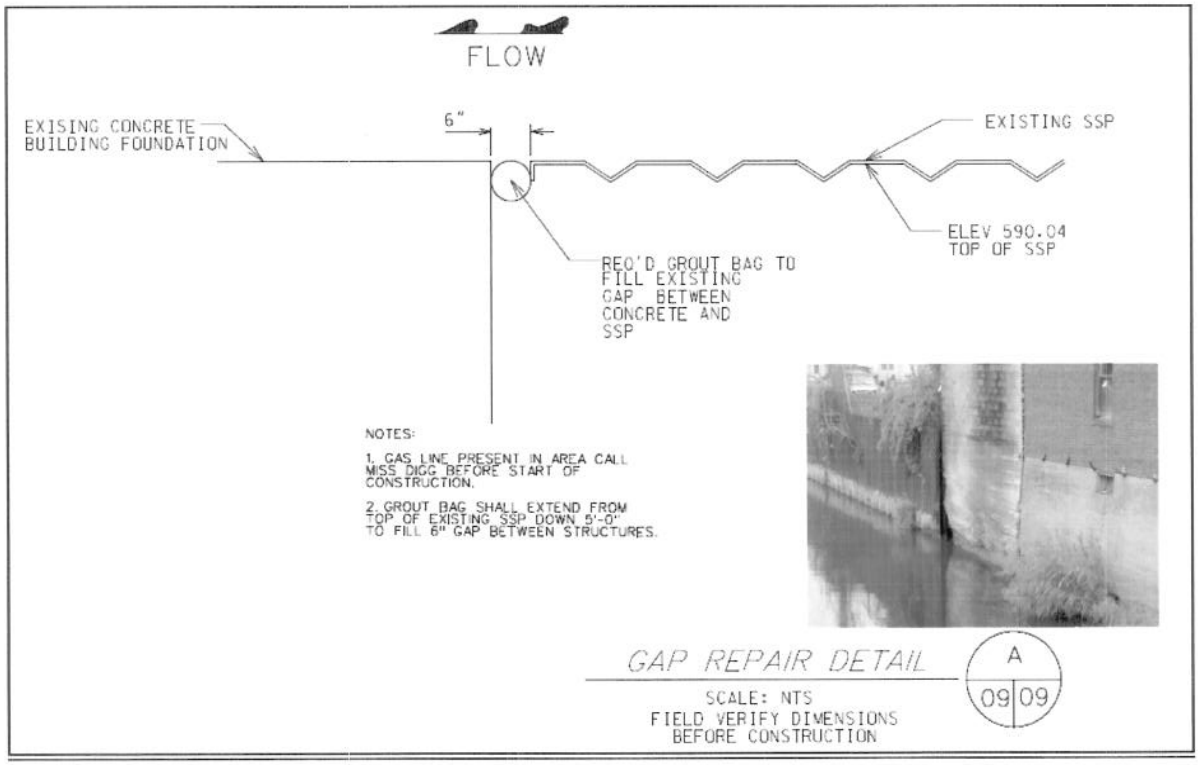

Figure 7: Detail for proposed gap repair between steel sheet pile wall and existing building (NTS).

4.6 Temporary activities would include appropriate precautionary measures to prevent erosion and sedimentation or other undesirable environmental impacts. The contractor shall obtain any required erosion and sediment control permits. Soil erosion control methods would be put in place prior to beginning construction activities to minimize riverbank sediments from entering the river system. Depending on the type of equipment utilized, a temporary, stone road (or similar) may be constructed to and / or along the riverbanks for traction and erosion control. Other erosion control measures such as the use of silt fencing, straw bales, geo-fabrics, hydroseeding, or various other immediate vegetation tactics would be implemented prior to, during and after construction, as needed. Disturbed areas or temporary construction sites would be vegetated (grass only) to similar conditions for long term erosion control, or restored as applicable, upon project completion. Typical maintenance activities in the future for the flood management project would likely include the control of woody vegetation, periodic mowing, replacement of deteriorated concrete block mats, erosion control and levee repair.

4.7 Some variation from the project, as described, may occur with respect to the sequence of activities, method of construction, or design details as a result of unanticipated design requirements (such as unmarked utilities, poor soils), site conditions, or cost saving measures. Such variations would not result in significant changes to either the overall project design or environmental impact, without further evaluation under the National Environmental Policy Act (NEPA).

5.0 POTENTIAL ENVIRONMENTAL EFFECTS

5.1 Impact Summary: This project involves maintenance of a compromised levee area of the existing Federal flood management project in Sebewaing, Michigan. Maintenance of the levee including vegetation clearance, grading and armoring is not expected to result in any significant short term, long term or cumulative adverse environmental effects. Adverse effects would be minor, including short term noise and air emissions from equipment operation; temporary turbidity from construction operations; temporary displacement of fish; and destruction of benthic organisms in the immediate riverbank work area. Fish would return upon completion of construction. The articulating concrete block mats that are located below the water line would be colonized by benthic organisms. The concrete block mats would provide suitable habitat for numerous invertebrates that do not live in the shifting river bank sediments. The project is designed to protect the Village of Sebewaing up to a 500 year storm event.

5.2 Water Quality: The majority of construction and maintenance activities would occur on the riverbanks out of the water and would thus not affect water quality. Appropriate erosion control measures would be implemented to prevent sediment runoff from entering the Sebewaing River. Select areas of the shoreline would involve grading, reshaping and riverbank stabilization to construct flood control protection and to prevent future shoreline erosion. Riverbank stabilization work would be focused along the riverbank and would not involve extensive placement of material in the water. Construction induced increases in suspended solids and turbidity could occur but would be limited and short term due to the types of material to be used for this project (gravel and concrete block mats). The temporary adverse water quality impacts resulting from construction would be minor. Pursuant to the Clean Water Act (CWA), a Section 404 (b)(1) Evaluation of the environmental effects of the discharge of fill material into waters of the United States has been prepared and is incorporated by reference in this EA. The Section 404(b)(1) Evaluation concludes that "the proposed action is in compliance with Section 404 of the Clean Water Act." A Section 401 (CWA) water quality certification, or waiver thereof, would be obtained from the State prior to placement of fill into the water for the maintenance activities.

5.3 Wetlands and Aquatic Resources, Including Fish: No wetlands have been identified within the proposed construction area or in the immediate surrounding area; thus no wetland effects are anticipated. Fish in the river consist of northern pike, carp, suckers, perch, smallmouth bass, members of the sunfish family and minnows and chubs. Walleye and salmon have been observed upstream, on occasion. The majority of maintenance work associated with this project would occur on the riverbanks out of the water, and would thus have minimal effect on the fishery and aquatic organisms at the site. Select areas of the shoreline would involve grading, reshaping and riverbank stabilization to construct flood control protection and to prevent future shoreline erosion. Fish would be capable of leaving the work area and would be expected to do so. Bottom dwelling organisms would be expected in and among material that makes up the existing riverbank where the work would occur. Although these habitats would likely be destroyed and / or altered during construction activities, no significant or unique fish habitat is known to occur at the site of these temporary effects. Some of the riverbed material near the shoreline may be buried with the concrete block mats. The project related gravel and concrete block mats may increase habitat diversity in the immediate area. Benthic organisms would colonize the site upon completion of the

project. No significant effects to the area's fishery or aquatic organisms would be expected.

5.4 Terrestrial Habitat, Including Wildlife: The project site is a mixture of trees and open area that is inhabited by small mammals and birds. The urban work area does not contain significant or unique wildlife habitat. Wildlife at the project site may be temporarily disturbed during construction but no significant effects are anticipated. Wildlife found in the immediate area would likely avoid the project site during construction because of noise; however, many areas along the river are occupied by residential or commercial properties which currently produce periodic disturbances. Removal of overgrown vegetation along the levee would not have a significant effect. Exposed soils within the project area would be revegetated. Short term effects would be minor and may involve disrupted use of the upland banks for resting or feeding by small mammals, reptiles, amphibians, insects, and birds. Wildlife would be expected to return to the area upon project completion. The project would not adversely affect wildlife.

5.5 Exotic Species: A variety of invasive exotic species have entered the Great Lakes. A number of invasive exotic plant species have become established along the Lake Huron shoreline, in some cases displacing native plant species and resulting in diminished wildlife habitat values. Some of the more aggressive invasive species include common reed / giant reed grass, reed canary grass, purple loosestrife, Eurasian milfoil, and glossy buckthorn. Rocky shorelines and breakwaters provide habitat for the invasive exotic zebra and quagga mussels. The round goby, Eurasian ruffe and the spiny water flea are also exotic species of concern. The exposed work areas will be seeded and vegetated to restrict the growth of invasive species and previously used equipment would be cleaned prior to bringing it onsite. The impact of these exotic species in river systems and turbid waters is limited. Therefore, this project would not be expected to promote exotic species in the Sebewaing River.

5.6 Federally Listed Species:

5.6.1 The COE reviewed the U.S. Fish and Wildlife Service County Distribution of Federally Listed Threatened, Endangered, Proposed and Candidate Species (Revised July 2009) for Huron County, Michigan. The County Distribution lists:

- Indiana bat (*Myotis sodalis*) - endangered;
- Pitcher's thistle (*Cirsium pitcheri*) - threatened;
- Eastern prairie fringed orchid (*Plantathera leucophaea*) - threatened; and
- Eastern massasauga rattlesnake (*Sistrurus catenatus*) - candidate species.

Habitat for the pitcher's thistle, eastern prairie fringed orchid, and eastern massasauga rattlesnake is not present at the project site. Based on a review of this information and knowledge about the project site, the Corps has determined that the proposed activities would have *no effect* on the pitcher's thistle, eastern prairie fringed orchid, and eastern massasauga rattlesnake.

5.6.2 Project construction is not anticipated to encroach on any preferred habitat for the Indiana bat. Numerous trees would be removed (approximately 20 trees with a diameter > 24 inches, and approximately 360 trees with a diameter of 1-24 inches) and various clearing, grubbing and

stripping of soil and vegetation would be conducted along the existing levee and within the Federal project easement. The trees proposed for removal are located in or adjacent to the levee and compromise the structural integrity of the flood management project. The majority of the medium and large trees are cottonwoods. Large tree species (> 24 inch diameter) proposed for removal also include ash, box elder and elm. None of these trees have exfoliating bark, which is the preferred habitat for the Indiana bat. Although these trees could potentially provide Indiana bat summer habitat, they are not preferred habitat or unique to the area. Data indicate that the Indiana bat is widespread in southern lower Michigan. Sebewaing is located at the northern boundary of the habitat range, and the Indiana bat has not been documented this far north on the eastern side of the state. Based on the type of habitat present and location of the site, the Detroit District, has made the determination that the project *may affect but is not likely to adversely affect* Federally listed species and / or critical habitat. The COE received a letter from the USFWS on January 4, 2010, in which the USFWS concurred with the COE's determination that the proposed maintenance project may affect but is not likely to adversely affect the Federally-listed endangered species, Indiana bat.

5.7 Floodplains: The purpose of this project is to improve existing flood management features to better protect the Village of Sebewaing from flooding. Although the project site is located within the floodplain, the proposed action complies with the Federal Executive Order on Flood Plain Management (E.O. 11988) because there is no practicable alternative to construction in the floodplain, nor would the project encourage floodplain development.

5.8 Hydrology and Hydraulics: For all modeled water surface elevations, the existing levees are not predicted to overtop. However, there is minimal freeboard at some locations, specifically near station 28+00 on the right bank looking downstream in the proposed maintenance area. It is recommended that the proposed levee from Stations 19+75 to 30+53 more closely match the elevations in the upstream and downstream cross sections, resulting in an increase of approximately 2 feet to the existing levee, or an elevation of approximately 591.5 feet. With the proposed levee maintenance, the anticipated water levels would be well below the proposed top elevation of the levee. The Corps of Engineers Hydrologic and Hydraulic Branch conducted a HEC-RAS model of the river system and determined that no harmful stage increase would occur upstream or downstream from the proposed work.

5.9 Air Quality: Effects on air quality would arise from emissions from equipment used to construct the proposed project and from any dust generated by the clearing activities. All equipment would be required to meet emission standards and emissions are expected to be minor. Construction of the proposed project would be short term. Dust generated from clearing of the vegetation and grading would be short term and generally would be localized to the levee. In order to reduce potential dust, the work area may be sprayed with water during construction. Thus, the proposed project would be exempted as *de minimis* (Latin for 'of minimal importance') and meet the Conformity Requirements under Section 176(c) of the Clean Air Act, as amended, and 40 CFR 93.153.

5.10 Recreation, Noise, and Aesthetics: Sebewaing Harbor is used extensively for water oriented recreation from pleasure boating to fishing. The proposed maintenance of the flood control project would have minimal effect on recreation, primarily some noise and visual

disturbances. If barges are used for construction, the barges may congest the harbor entrance to a minor degree. To minimize noise impacts, all motorized construction equipment is required to have approved mufflers.

5.11 Cultural Resources: In compliance with Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593 (Protection and Enhancement of the Cultural Environment, May 1971), the National Register of Historic Places and the State Historic Preservation Office (SHPO) have been consulted. The project site has been reviewed for historic and cultural resources. No known historic properties listed on or eligible for listing on the National Register, or archeological sites items are known to be located in the area of the proposed project site. The site was previously disturbed by original construction of the Federal flood management project. Construction contracts would include clauses protective of any discovered cultural resources. If any unusual sites / items that may have historical value are encountered during the course of maintenance activities, work would stop and the sites / items would be protected while the appropriate authorities, including the District archeologist, are contacted. It is not anticipated that the proposed maintenance work on the Sebewaing flood management project would affect cultural resources. A letter dated January 5, 2010 was received from the Michigan SHPO where the SHPO concurred with the COE's determination "that no historic properties are affected within the area of potential effects."

5.12 Traffic and Safety: All materials hauled to and from the project sites would use approved hauling routes and abide by local and state requirements. Construction activities would be conducted with minimal interference to navigation at the harbor as previously described. The area where construction activities and recreational activities would meet is in the movement of construction equipment and materials through the navigation channel or from the boat launch. The contractor would be required to maintain access for recreational vessels and any commercial users with minimal delays and safe operating conditions at all times. Therefore, these disturbances are not expected to be significant, but are temporary and would cause no adverse long term or secondary effects.

5.12.1 Since private properties border the proposed project site, little foot traffic or other public access would be affected. All equipment and materials hauled to and from the project site would use approved hauling routes and abide by local, state, and Federal hauling requirements. Access to the Federal flood management project from Village streets would be provided by the Village. Proposed construction activities would be in the vicinity of the existing flood project along the riverbank, with minimal interference to land or river navigation. The contractor would be required to coordinate with the local authorities regarding use of access routes and obtain the appropriate permit(s), if necessary.

5.13 Coastal Zone Management: The proposed project site is outside the coastal zone as defined by the Michigan Coastal Management Program, thus activities at the site would have no effect on the coastal zone. Proposed activities would be consistent to the maximum extent practicable with the State of Michigan Coastal Management Program developed under the Federal Coastal Zone Management Act.

5.14 Hazardous, Toxic and Radiological Wastes (HTRW): A review of the EPA's EnviroMapper data, which includes Superfund sites, toxic releases, water dischargers, air emissions, and hazardous wastes, indicates that no HTRW sites are in the immediate area. A search for contaminated sites (as defined under the Michigan Natural Resources and Environmental Protection Act 451 of 1994, as amended) on the DNRE Part 201 Site List, indicates that no listings are located at the project site. As a precaution, the construction contract would contain standard language on procedures to follow to help ensure that there are no releases and that the materials are properly remediated where applicable, in the event that contaminated materials are encountered. No HTRW impacts from contaminated sites are anticipated with the proposed maintenance.

5.15 Other Resources: The project maintains the existing levee (though in a deteriorating state), and would not have a significant adverse impact on community cohesion, desirable community growth, tax revenues, property values, public facilities, public services, regional growth, employment or the labor force, business and industrial activity, farmland, or man-made resources. The project would not cause the displacement of people.

5.16 Cumulative Impacts: The project would provide benefits in combination with other harbor improvements at Sebewaing. Cumulative effects would be related to disturbances of fish and other aquatic life combined with other harbor repair projects around Saginaw Bay. Since these effects do not extend beyond the actual construction sites and are temporary and minor in nature, cumulative effects would not occur between the harbor projects. Cumulative effects within Sebewaing Harbor and the flood management project, and other recreational harbors in the area are historical and would not be significantly increased by the proposed repairs.

6.0 COORDINATION OF THE PROPOSED ACTION

6.1 The proposed maintenance of the Federal flood management project located in Sebewaing, Michigan was coordinated with the Michigan Department of Natural Resources and Environment (DNRE), the Michigan State Historic Preservation Officer (SHPO), the U.S. Environmental Protection Agency (USEPA), the U.S. Fish and Wildlife Service (USFWS), and nearby Native American Tribes.

6.2 Michigan Department of Natural Resources and Environment (DNRE). Coordination was pursued with the State for maintenance activities at the Sebewaing project site. A letter dated January 26, 2010 was received from the DNRE. Their primary concern is for minimal impact to the aquatic environment during the construction phase. In response, this EA addresses measures for soil erosion and sediment control, construction sequencing and other best management practices. Per the DNRE, in-stream work would be avoided between 1 April and 30 June to minimize possible effects on fish spawning in the area. Extensive placement of materials in the water and in-stream work is not anticipated for this project.

6.3 Michigan State Historic Preservation Office (SHPO). The Michigan SHPO reviewed the proposed maintenance / construction project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. A letter dated January 5, 2010 was received from

the Michigan SHPO where they concurred with the COE's determination "that no historic properties are affected within the area of potential effects" for the proposed maintenance.

6.4 U.S. Environmental Protection Agency (USEPA). The COE received a phone call from the EPA on December 23, 2009. The USEPA received our coordination letter regarding maintenance of the Sebewaing Federal flood management project. The USEPA requested that the EA address the use of native grass species and reduced use of non-native grass species, as native grass species can easily be managed via mowing, have reduced water needs, better absorption of water, and could provide some habitat for birds. The majority of the project site to be vegetated would involve voids in articulating concrete block mats. Due to the type of substrate (concrete block voids) and COE requirements that vegetation on levees be maintained at low height for inspections, turf grass would be preferred because it grows shorter and would require less mowing to maintain at a shorter height. Use of native grasses for seeding is not planned for the project.

6.5 U.S. Fish and Wildlife Service. The USFWS reviewed the proposed maintenance project and related on-site activities at the Sebewaing Federal flood management project. The COE received a letter from the USFWS on January 4, 2010, in which the USFWS concurred with the COE's determination that the proposed maintenance project may affect but is not likely to adversely affect the Federally listed endangered species, Indiana bat.

6.6 Native American Tribes. A letter dated January 6, 2010 was received from the curator at the Ziibiwing Center of Anishinabe Culture & Lifeways, Saginaw Chippewa Indian Tribe of Michigan. The letter indicates that the proposed project site is close to an area where they have information indicating the presence of an Indian traditional cultural property. The letter included a Site Reference Form to be utilized should there be a discovery of Native American human remains or burial objects during construction. In the event that any archeological or cultural artifacts are encountered, material would be protected and coordination would occur with applicable Tribes. No other Native American Tribes commented on the proposed project.

7.0 CONCLUSIONS AND DETERMINATIONS

7.1 The proposed action has been reviewed pursuant to the following Acts and Executive Orders: National Environmental Policy Act of 1969; Fish and Wildlife Act of 1956; Fish and Wildlife Coordination Act of 1958; National Historic Preservation Act of 1966; Clean Air Act of 1970; Executive Order 11593, Protection and Enhancement of the Cultural Environment, May 1971; Coastal Zone Management Act of 1972; Endangered Species Act of 1973; Water Resources Development Act of 1976; Clean Water Act of 1977; Executive Order 11990, Wetland Protection, May 1977; Executive Order 11988, Floodplain Management; and the Farmland Protection Policy Act (Subtitle I of Title XV of the Agriculture and Food Act of 1981). The proposed maintenance of the Federal flood management project in Sebewaing, Michigan has been found to be in compliance with the above Acts and Executive Orders.

7.2 The proposed project site is outside the coastal zone as defined by the Michigan Coastal Management Program. The proposed maintenance activities would have no effects on the coastal zone and would be consistent to the maximum extent practicable with the State of Michigan

Coastal Management Program.

7.3 The objective of Executive Order (E.O.) 11988, Floodplain Management, is to avoid, to the maximum extent possible, long and short term adverse impacts associated with the occupation and modification of the floodplain whenever there is a practical alternative to such an action. The purpose of the proposed action is to improve existing flood management features to better protect the Village of Sebewaing from flooding. Although the project site is located within the floodplain, the proposed action complies with the Federal Executive Order on Flood Plain Management (E.O. 11988) because there is no practicable alternative to construction in the floodplain, nor would the project encourage floodplain development.

7.4 Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) Evaluation of the environmental effects of the discharge of fill material into the waters of the U.S. has been prepared and incorporated into this EA. The Section 404(b)(1) Evaluation concludes that "the proposed action is in compliance with Section 404 of the Clean Water Act." A Section 401 CWA water quality certification (WQC), or waiver thereof, would be obtained from the State before the placement of fill for the maintenance of the flood management project is initiated.

7.5 This EA has been prepared in accordance with the National Environmental Policy Act (NEPA); the Council on Environmental Quality, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR Parts 1500-1508); and the Corps of Engineers, *Policy and Procedure for Implementing NEPA* (33 CFR Part 230).

7.6 This EA concludes that: 1) there are no significant cumulative or long term environmental effects associated with the proposed action; 2) the benefits outweigh the minor, temporary effects that may result; and 3) it does not constitute a major Federal action significantly affecting the quality of the human environment.

8.0 PUBLIC REVIEW

8.1 This EA and the Section 404(b)(1) Evaluation (attached), as outlined in the Public Notice, will be made available to the public for a 30 day review period. Following this period and a review of the comments received, a final determination will be made by the Detroit District Engineer regarding the necessity of preparing an Environmental Impact Statement (EIS) or holding a public hearing for the placement of fill into the waters of the Sebewaing River as part of the project.

8.2 Based on the conclusions of this EA and the Section 404(b)(1) Evaluation, it appears that preparation of an EIS will not be required. Therefore, a Preliminary Statement of Findings/Finding of No Significant Impact (SOF/FONSI) is included in the next section of this Environmental Assessment. If the District Engineer determines that an EIS is not necessary, the Preliminary SOF/FONSI will be finalized and the proposed repairs implemented.

9.0 REFERENCES

Environmental Protection Agency. January 2010. EnviroMapper. http://www.epa.gov/enviro/html/em/.

Environmental Protection Agency. January 2010. MyEnvironment. http://www.epa.gov.

Huron County website. January 2010. http://www.huroncounty.com.

Michigan Department of Natural Resources and Environment (formerly Department of Environmental Quality). January 2010. Sebewaing River Watershed Tillage and Cover Crop Information and Education Project. http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3714_31581-127726--,00.html.

Michigan Department of Natural Resources and Environment. January 2010. Part 201 Contaminated Site List. http://www.deq.state.mi.us/part201ss/.

U.S. Army Corps of Engineers. June 2009. *Hydraulic Modeling Study Sebewaing River.*

ATTACHMENT A

PRELIMINARY STATEMENT OF FINDINGS / FINDING OF NO SIGNIFICANT IMPACT

DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231-1027

IN REPLY REFER TO:
Planning Division
Environmental Analysis Branch

PRELIMINARY STATEMENT OF FINDINGS / FINDING OF NO SIGNIFICANT IMPACT FOR MAINTENANCE OF THE SEBEWAING FLOOD MANAGEMENT PROJECT VILLAGE OF SEBEWAING, MICHIGAN

1. In accordance with the National Environmental Policy Act (NEPA) of 1969, the U.S. Army Corps of Engineers, Detroit District (COE), has assessed the potential environmental effects associated with the proposed maintenance of the Federal flood management project located along the Sebewaing River in Sebewaing, Michigan. The District evaluated the following alternatives: 1) Reconstruct critical earthen levee areas and vegetate; 2) Reconstruct critical earthen levee areas and armor with rip-rap; 3) Reconstruct critical earthen levee areas and armor with articulating concrete block mats; 4) Reconstruct critical earthen levee areas and armor with SSP or concrete walls; 5) No action. The proposed action is Alternative 3; reconstruct critical earthen levee areas and armor with articulating concrete block mats. This alternative would also involve: removing trees and vegetation, man-made encroachments in and along the levee and project easement, placement of fill and the articulating concrete block mats, and repair of a gap located on the south side of the river between a SSP wall and concrete wall near Center Street Bridge.

2. An Environmental Assessment (EA) with a Section 404(b)(1) Evaluation has been completed. The EA indicates the project will not result in significant short-term, long-term or cumulative adverse environmental impacts. Adverse effects would be minor, limited primarily to short-term noise, air emissions, turbidity, localized disturbance to fish and benthic invertebrates. The proposed flood control maintenance provides an environmentally sound solution.

3. Pursuant to the Clean Water Act (CWA), a Section 404(b)(1) Evaluation of the environmental effects of the discharge of fill material into waters of the U.S. has been prepared and is included in the August 2010 EA. The Section 404(b)(1) Evaluation concludes that "the proposed action is in compliance with Section 404 of the Clean Water Act." The State of Michigan has not issued the Section 401 Water Quality Certification (WQC) or waiver thereof pursuant to the CWA. No work would be initiated until the State provides the necessary Section 401 WQC or waiver.

4. Review of the proposed repairs at Sebewaing, and of the comments received during public review, indicates that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment; therefore, an Environmental Impact Statement will not be prepared.

_____
Date Signed

_____
Michael C. Derosier
Lieutenant Colonel, U.S. Army
District Engineer

ATTACHMENT B

SECTION 404(b)(1) EVALUATION OF THE CLEAN WATER ACT

CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

Of the Effects of Placing Fill Material into the Waters of the United States

MAINTENANCE OF THE SEBEWAING FLOOD MANAGEMENT PROJECT
VILLAGE OF SEBEWAING, MICHIGAN

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III. FINDING OF COMPLIANCE OR NON-COMPLIANCE 8

I. PROJECT DESCRIPTION

a. Project Location. The U.S. Army Corps of Engineers, Detroit District (COE) proposes to perform maintenance of the Federal flood management project located along the Sebewaing River in Sebewaing, Michigan. The Federal flood management project is located between the railroad bridge and the Beck Street Bridge (Figure 5, EA). This project includes maintenance of the most degraded levee area on the north side of the river located between the Center Street Bridge and the Beck Street Bridge from Stations 19+75 to 30+53.

b. General Description of Project. The Federal flood management project protects downtown Sebewaing residents, businesses and industry from flooding. A recent inspection revealed that the flood management project levee is compromised by growth of large trees and brush in and along the levee. The flood project also contains numerous real estate encroachments consisting of building and retaining walls constructed into or immediately adjacent to the levee. Erosion has occurred on the levee. Maintenance work would involve the following: removing trees, vegetation, and encroachments in and along the levee, grading, filling and placement of articulating concrete block mats and seeding the project site. The maintenance also includes the repair of a gap located between a SSP wall and concrete wall near Center Street Bridge on the south side of the river above the OHWM of the Sebewaing River.

Some fill may be required at the shoreline to restore the slope of the levee to set the mats (Figure 6, EA). Approximately 75 cubic yards of sediment excavated from below the water line (2 cubic feet/ lineal foot of articulating concrete block mats) will be disposed into a licensed Type II facility or Corps CDF. The sediments were not tested because the cost of testing is higher than the cost of disposal. The excavated area will be filled with concrete to anchor the articulating concrete block mats. Additional clean fill materials will be brought in from a COE approved off-site source. Maintained sections of the flood management project would have a similar footprint to the existing project and be either vegetated or stabilized. The improved project section would provide protection against a 500 year flood event.

Approximately 75 cubic yards of sediment excavated from below the water line (2 cubic feet/ lineal foot of articulating concrete block mats) will be disposed into a licensed Type II facility or Corps CDF. The sediments were not tested because the cost of testing is higher than the cost of disposal. The excavated area will be filled with concrete to anchor the articulating concrete block mats. Additional clean fill materials will be brought in from a COE approved off-site source. Maintained sections of the flood management project would have a similar footprint to the existing project and be either vegetated or stabilized. The improved project section would provide protection against a 500 year flood event. Some fill at the shoreline will occur to stabilize and restore the grade and slope of the levee (Figure 6, EA).

c. Authority. The Sebewaing River Flood Management / Control Project, including Operation and Maintenance (O&M) activities, was authorized by the Flood Control Act of 1941 to provide flood protection for the Village of Sebewaing.

d. General Description of the Dredged / Fill Material. The only dredging below the water line is for laying the articulating concrete block mats and anchoring them with poured concrete

(2 ft^3 / linear foot). Fill materials that would be used to perform maintenance on the flood project would consist of: clay and gravel fill from commercial, COE approved source(s), geotextile fabric and concrete block mats. Trees and vegetation will be removed from the levee to prepare the slope for construction. In general, clay would be used to construct and seal the levee above the water line and would not enter the water. Gravel fill would be placed below the OHWM and extend into the water. The levee slope (river side) would then be covered by a geotextile fabric followed by placement of concrete block mats. Repair of the gap above the OHWM on the south side of the river involves the placement of a sack between the existing SSP and existing building (the gap) and filling with concrete grout.

e. General Description of the Proposed Discharge Site(s).

(1) Location. Maintenance activities would occur at the work area on the north side of the Sebewaing River between the Center Street Bridge and Beck Street Bridge from Stations 19+75 to 30+53.

(2) Size. This maintenance project vegetation clearing, levee reconstruction, riverbank stabilization / erosion control, and / or gap repair) covers approximately 1,078 linear feet or 0.2 miles along the Sebewaing River. The in water work is excavation to set the toe of the mats. Access to the project site would be from Village streets to the work areas, or at other locations designated by the Village.

(3) Type of site(s). The maintenance work proposed would occur along the northerly earthen levee between Stations 19+75 to 30+53 in downtown Sebewaing. Most work would be conducted along the shoreline, above or just at the waterline. The proposed gap repair on the south side is located between a commercial building and SSP vicinity Station 20+70.

(4) Type(s) of habitat. Water along the riverbank is shallow, with the river's average depth less than 5 feet in the project area. The river bottom is predominantly composed of clay and silt. Areas that have the potential to be affected by the maintenance project are not unique or provide habitat vastly different than that further up or downstream, which would not be affected by the project. The gap repair is structural in nature and does not provide any habitat.

(5) Timing and duration of discharge. Construction would occur between late spring and fall during low flows and when the potential for ice jams have subsided. Various project and field activities associated with the proposed maintenance project could occur year round; however, in stream activities would only occur during low flow periods. Work would be completed in sections to limit the duration of exposed earth in the levee maintenance. In stream work would be avoided for the period of 1 April to 30 June to minimize possible effects on fish spawning in the river. The size of the project and scope of maintenance dictates that the maintenance may be conducted over two construction seasons.

f. General Description of Disposal Method. It is anticipated that the maintenance project would be performed using land based equipment from the riverbanks. Where equipment cannot access work areas due to limited space, the contractor may use barges or work from the water. The majority of activities that could affect the water would involve vegetation clearing, reshaping the levees and placement of clean gravel along the shoreline, followed by placement of geotextile fabric and concrete block mats. Washed gravel would extend approximately two (2) feet into the river on a 1 horizontal to 1 vertical (1H:1V) slope as bedding material. The articulating concrete mats would be tied into the crest and at the toe of the levee with poured concrete. Repair of the gap on the south side of the river would occur from the water with support from upland near the top of the SSP. Concrete grout would be placed in a bag located in the gap.

II. FACTUAL DETERMINATION

a. Physical Substrate Determinations. Fill material placed along the shorelines and in water near the shore would consist of gravel and concrete. The Sebewaing River riverbed is predominantly clay and silt.

(1) Substrate elevation and slope. The elevation of the existing river bottom at the center line would not be changed by this project. The shorelines and riverbank slopes down to the water and areas of the river near the shoreline would change slightly. Proposed slopes and placement of gravel and concrete block mats would be sufficient to armor the levee to prevent future erosion.

(2) Sediment type. The amount of material that would enter the water is not expected to cause a significant change in the river sediment.

(3) Dredged / fill material movement. Since loose fines would not be placed in the river as part of construction, it is not anticipated that there would be any significant movement of the fill material.

(4) Other effects. Not applicable.

b. Water Circulation, Fluctuation, and Salinity Determinations.

(1) Water.

(a) Water chemistry – No significant effect.

(b) pH – No significant effect.

(c) Salinity – No significant effect.

(d) Salinity Gradients – Not applicable.

(e) Clarity – Minor, temporary increases in turbidity may occur during vegetation removal, placement of gravel and concrete block mats. This could cause short

term reduction in water clarity. Effects on clarity would be minimal because fines are not being placed and few fines would be disturbed.

(f) Color – A minor, temporary change in color may occur due to the potential minor increase in turbidity during placement of gravel and concrete block mats. These effects would return to pre-project conditions shortly after completion of construction.

(g) Odor – No significant effect.

(h) Taste – No significant effect.

(i) Dissolved gas levels – No significant effect. Any potential changes in dissolved gas levels would be the result of minor, temporary increased turbidity and would be short term.

(j) Temperature – No significant effect.

(k) Nutrients – No significant effect.

(l) Eutrophication – No significant effect.

(2) Current Patterns and Circulation.

(a) Current patterns and flows – No significant effect.

(b) Velocity – No significant effect.

(c) Stratification – No significant effect.

(d) Hydrologic effect – No significant effect.

(3) Normal Water Level Fluctuations. No significant effects to normal water level fluctuations would be anticipated.

(4) Actions That Will Be Taken to Minimize Impacts. The contractor would obtain any required erosion and sediment control permits and meet the construction specification for soil erosion control. Soil erosion control methods would be put in place prior to beginning construction activities and maintained during construction activities to minimize sediments from entering the river. Any disturbed areas or temporary construction sites would be vegetated to similar conditions for long term erosion control, or restored as applicable, upon project completion.

c. Suspended Particulate / Turbidity Determinations.

(1) Change at Placement Site. A minor, temporary increase in turbidity may occur during placement of gravel and concrete block mats along the shoreline. The amount of material entering the water would be minimal. Based on the quantity of materials (gravel, concrete) and existing water conditions, the effects on clarity are expected to be short term and minimal. These effects would return to pre-project conditions when materials are not being placed in the water. In the area of the gap repair, no change in turbidity is expected since the work is above the OHWM.

(2) Effects on Physical Properties of the Water Column. Ambient conditions of the Sebewaing River at the project site are generally turbid.

(a) Light penetration – No significant effect.

(b) Dissolved oxygen – No significant effect.

(c) Aesthetics – No significant effect.

(d) Other as appropriate – None appropriate.

(3) Effects on Biota (primary production, photosynthesis, suspension / filter feeders, sight feeders). No significant effect.

(4) Actions to Minimize Impacts. The contractor would obtain any required erosion and sediment control permits and meet the construction specification for soil erosion control. Soil erosion control methods would be put in place prior to beginning construction activities and maintained during construction activities to minimize sediments from entering the river. Any disturbed areas or temporary construction sites would be vegetated or otherwise stabilized for long term erosion control, or restored as applicable, upon project completion. The voids in the concrete block mats would be filled with soil and hydro-seeded.

d. Contaminant Determinations. Only clean construction materials brought in from COE approved sources would be used for the project. No contamination is known to exist at the proposed placement sites.

(1) Metals. No significant effect.

(2) Chemical characteristics. No significant effect.

(3) Biological content / pathogens. No significant effect.

e. Aquatic Ecosystem and Organism Determinations. No significant effects.

(1) Federally listed species. No significant effects on Federally listed species or critical

habitat. The proposed construction project was reviewed in accordance with the National Environmental Policy Act (NEPA), Endangered Species Act (ESA) of 1973, and the Fish and Wildlife Coordination Act. Habitat for listed endangered, threatened or candidate species is not present in the area where project construction is to take place.

(2) Fish, crustaceans, mollusks, and other aquatic organisms in the food web. No significant effects on desirable Sebewaing River fish populations are anticipated as a result of this project. Effects to the river would be minimal and be along the shoreline at selected areas. Bottom dwelling organisms and possibly some fish habitat would be expected along the clay / silt riverbed material. Although these habitats would likely be destroyed during construction activities, no significant or unique fish or wildlife habitat is known to occur at the site of these temporary effects. Some of the riverbed material may be buried with clean off site material. Benthic organisms such as arthropods, phytoplankton and various insects would largely be disturbed or destroyed in the immediate work area, but would colonize on the articulating concrete mat located below LWD upon completion of the project.

(3) Mammals, birds, reptiles, amphibians and other wildlife. Maintenance and construction activities would have no significant effects on terrestrial or other wildlife.

(4) Effects on special aquatic sites.

(a) Sanctuaries and refuges – Not present.

(b) Wetlands – Not present.

(c) Mud flats – Not present.

(d) Vegetated shallows – Not present.

(e) Coral reefs – Not present.

(f) Riffle and pool complexes – No significant effect.

(5) Other. Municipal and private water supplies would not be affected by the proposed action. Minimal impacts on recreational fishing could occur during construction, but there would be no significant long term or negative effects on recreational fisheries. Commercial fisheries are not present. There would be no significant or long term effect on water related recreation. Aesthetics could be temporarily impacted during construction activities; however, once complete, there would be no significant effects on the area's aesthetics. No parks, national and historical monuments, national seashores, wilderness areas, research sites or similar preserves are present, thus none would be affected.

f. Proposed Disposal Site Determinations.

(1) Mixing zone determinations. The mixing zone is not expected to extend far beyond the shoreline due to the type of material present in the river and type of material being placed.

(a) Depth of water at disposal site – Shallow; 0-3' feet along shoreline and river edge. The depth of gravel placed would decrease as you move toward the center of the river. Concrete used to anchor the concrete mats would match the existing elevation of the river bottom.

(b) Current velocity, direction and variability at disposal site – Average river velocity during summer (proposed season of site construction) is very slow, approximately 1 foot per second or less.

(c) Degree of turbulence – High during spring runoff.

(d) Stratification at disposal site – None.

(e) Discharge vessel speed and direction – Not applicable.

(f) Rate of discharge – Not applicable.

(g) Ambient concentration of constituents (COC) of interest – None.

(h) Dredged material characteristics, particularly COC, amount of material, type of material (sand, silt, clay, etc.) and settling velocities – None.

(i) Number of discharge actions per unit time – One time discharge, during maintenance activities. Placement of material would occur periodically during maintenance activities, depending on which area the contractor is working.

(j) Other factors of disposal site that affect the rates and patterns of mixing – None.

(2) Determination of compliance with applicable water quality standards. The project would be in compliance with applicable State of Michigan water quality standards.

g. Determination of Cumulative Effects on the Aquatic Ecosystem. The proposed action would not result in significant cumulative effects on the aquatic ecosystem. Additional information on effects can be found in Section 5 of the EA.

h. Determination of Secondary Effects on the Aquatic Ecosystem. The proposed action would not result in significant secondary effects on the aquatic ecosystem. Additional information on effects can be found in Section 5 of the EA.

III. FINDING OF COMPLIANCE OR NON-COMPLIANCE

a. Based on the above, the proposed action is determined to be in compliance with Section 404(b)(1) Guidelines of the 1977 Clean Water Act amendments.

b. Alternatives considered for maintenance of the Federal flood management project located

along the Sebewaing River include: 1) Reconstruct critical earthen levee areas and vegetate; 2) Reconstruct critical earthen levee areas and armor with rip-rap; 3) Reconstruct critical earthen levee areas and armor with articulating concrete block mats; 4) Reconstruct critical earthen levee areas and armor with SSP or concrete walls; 5) No action. The proposed action is Alternative 3; reconstruct critical earthen levee areas and armor with articulating concrete block mats. This alternative would also involve: removing trees and vegetation, man-made encroachments in and along the levee and repair of a gap located between a SSP wall and concrete wall near Center Street Bridge.

c. The proposed maintenance project, including modification and maintenance of critical levee areas in Sebewaing, Michigan would not violate applicable State of Michigan water quality standards. A Section 401 (CWA) water quality certification, or waiver thereof, would be obtained from the State prior to construction in the water.

d. The proposed action would not result in significant effects on human health or welfare, municipal and private water supplies, recreational fishing, aquatic life, wildlife dependent on the aquatic ecosystem, or the diversity, productivity and stability of the aquatic ecosystem at the project site. The proposed action has been coordinated under Section 7 of the Endangered Species Act. Federally listed endangered or threatened species or their critical habitats would not be affected.

e. Appropriate steps would be taken to minimize adverse environmental impacts on the aquatic ecosystem. Contract specifications would include specific environmental protection clauses to ensure protection of natural resources, proper installation and maintenance of appropriate and effective erosion control measures during and after the project, and planned sequencing of the construction activities to minimize effects on spawning.

f. The proposed flood protection maintenance project would provide protection against a 500 year flood event at improved sections and protect the shoreline within the proposed work area from further erosion. On the basis of the *Guidelines for Specification of Disposal Sites for Dredged or Fill Material* (40 CFR part 230), it has been determined that the proposed action is in compliance with Section 404 of the Clean Water Act.

g. No significant adaptations of the Section 404(b)(1) guidelines were made relative to this evaluation.